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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,570	08/05/2003	Vito R. Gervasi	66182-9020-02	6967
23409	7590	06/28/2006	EXAMINER	
MICHAEL BEST & FRIEDRICH, LLP			SIMONE, CATHERINE A	
100 E WISCONSIN AVENUE			ART UNIT	
MILWAUKEE, WI 53202			PAPER NUMBER	

1772

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

✓

Office Action Summary	Application No. 10/634,570	Applicant(s) GERVASI ET AL.	
	Examiner Catherine Simone	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/5/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

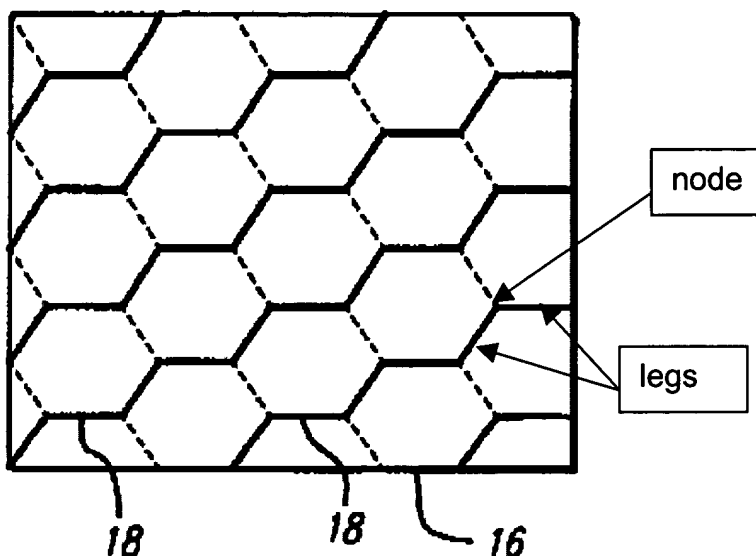
2. Claims 21-24 and 28-40 are rejected under 35 U.S.C. 102(a) as being anticipated by Nguyen et al. (US 5,855,718).

Nguyen et al. discloses a three-dimensional object comprising a first one-piece build style lattice including a plurality of substantially uniform build style units (Fig. 1b, element 18) and a second one-piece build style lattice (Fig. 1d, element 26 or Fig. 1f, element 34) integrally formed with and interlaced with the first lattice (see Fig. 1g), the second lattice including a plurality of substantially uniform build style units (Fig. 1d, element 26 or Fig. 1f, element 34). Regarding claim 22, the first lattice is made of a first material and the second build style lattice is made of a second material (see col. 11, lines 14-45). Regarding claim 23, the first build style lattice (Fig. 1b, element 18) includes a plurality of interconnected legs and nodes (see Fig. 1b shown below). Regarding claim 24, the legs of the first build style lattice have a substantially uniform thickness (see Fig. 1b shown below). Regarding claim 28, the first and second build style lattices define therebetween an interface (see Fig. 1g and see col. 2, lines 55-64). Regarding claim 29, the interface is substantially hollow (see col. 2, line 64). Regarding claim 30, the interface is occupied by a fluid (see col. 2, line 56 and col. 4, lines 1-2). Regarding claim 31, the interface

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defines at least one channel for conducting a fluid along a predetermined path (see col. 9, line 13). Regarding claim 32, the channel has a cross-section which narrows to define a capillary (see col. 9, lines 10-11). Regarding claim 33, the interface is occupied by a solid material (see col. 2, line 62). Regarding claim 34, the interface is occupied by the legs of the first and second build style lattices (Fig. 1g and see col. 2, lines 55-61). Regarding claim 35, note the object includes a boundary skin and wherein the first build style lattice supports the skin (see col. 10, lines 28-32). Regarding claim 36, note the second build style lattice supports the boundary skin (see col. 10, lines 28-32). Regarding claim 37, note the legs of the first lattice are hollow (Fig. 1b, element 18). Regarding claim 38, the legs of the first build style lattice define respective bores having an inner diameter and wherein the inner diameters of the bores vary to form at least one capillary (see col. 9, lines 7-15). Regarding claim 39, note a boundary skin supported by at least one of the first and second build style lattices (see col. 10, lines 28-32).

FIG. 1b



Furthermore, regarding claim 40, the limitations “formed through use of a free form fabrication method comprising the steps of generating a digital representation of the object...generating a digital representation of a first build style lattice...generating a digital representation of a second build style lattice...intersecting the overlaid representations...fabricating the digital representation of the object...” are methods of production and therefore do not determine the patentability of the product itself. Process limitations are given little or no patentable weight. The method of forming the product is not germane to the issue of patentability of the product itself. MPEP 2113.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

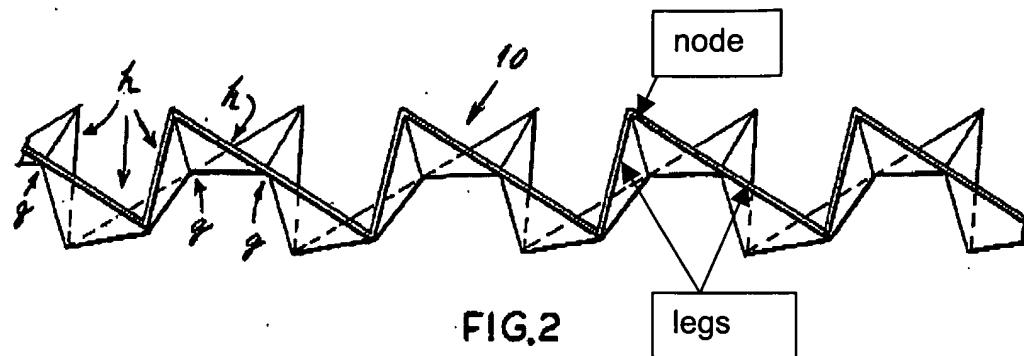
A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 21-24, 28, 29, 35-37, 39 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Haselbauer (US 4,020,205).

Haselbauer discloses a three-dimensional object comprising a first one-piece build style lattice including a plurality of substantially uniform build style units (Fig. 2, element 10) and a second one-piece build style lattice (Fig. 3, element 12) integrally formed with and interlaced with the first lattice (see Fig. 7), the second lattice including a plurality of substantially uniform build style units (Fig. 3, element 12). Regarding claim 22, the first lattice is made of a first material and the second build style lattice is made of a second material (see col. 2, lines 22-29). Regarding claim 23, the first build style lattice (Fig. 2, element 10) includes a plurality of interconnected legs and nodes (see Fig. 2 shown below). Regarding claim 24, the legs of the first build style lattice have a substantially uniform thickness (see Fig. 2 shown below). Regarding claim 28, the first and second build style lattices define therebetween an interface (see Fig. 7 and see col. 3, lines 51-64). Regarding claim 29, the interface is substantially hollow (see Fig. 7 and see col. 3, lines 51-64). Regarding claim 35, note the object includes a boundary skin and wherein the first build style lattice supports the skin (see col. 4, line 5-7). Regarding claim 36, note the second build style lattice supports the boundary skin (see col. 4, lines 5-7). Regarding claim 37, note the legs of the first lattice are hollow (Fig. 2, element 10). Regarding claim 39, note a boundary skin supported by at least one of the first and second build style lattices (see col. 4, lines 5-7).



Furthermore, regarding claim 40, the limitations “formed through use of a free form fabrication method comprising the steps of generating a digital representation of the object...generating a digital representation of a first build style lattice...generating a digital representation of a second build style lattice...intersecting the overlaid representations...fabricating the digital representation of the object...” are methods of production and therefore do not determine the patentability of the product itself. Process limitations are given little or no patentable weight. The method of forming the product is not germane to the issue of patentability of the product itself. MPEP 2113.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Nguyen et al. or Haselbauer.

Nguyen et al. and Haselbauer each teach the three-dimensional object as shown above. However, each fails to teach the thickness of the interconnected legs and nodes of the second lattice being different from the thickness of the legs of the first lattice. It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the thickness of the legs and nodes of the second lattice in either Nguyen et al. or Haselbauer to be different from the legs of the first lattice, since it has been held that a change in the design of the legs and nodes would be an unpatentable modification in absence of showing unexpected results and it has been held to be within the general skill of a worker in the art to select a known design on the basis of its suitability for the intended use as a matter of obvious design choice.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Simone whose telephone number is (571)272-1501. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CAS

Catherine A. Simone
Examine
Art Unit 1772
June 22, 2006

Harold Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

6/26/06